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PEIRCE'S USE OF KANT

PEIRCE'S great interest in technical philosophy came with his study of the German metaphysicians, especially Kant. But though more influenced by Kant than by any other philosopher encountered during his own period of development, Peirce did not emerge as a neo-Kantian. In this distinction is contained the key to the understanding of Peirce's whole position. The result of his devotion to classical German philosophy was that he came to consider it upon its constructive side as of little weight (1.5),[1] and leaned toward the meagre but more scientific tradition. German philosophy remained for him "a rich mine of philosophical suggestions."[2] In other words, he learned the desirability of constructing a system on the German model, but wished to do it with the British empirical method.

Among the German philosophers, Kant especially seemed to him to have "possessed in a high degree all seven of the mental qualifications of a philosopher: the ability to discern what is before one's consciousness; inventive originality; generalizing power; subtlety; critical severity and sense of fact; systematic procedure; energy, diligence, persistency, and exclusive devotion to philosophy" (1.522). Everywhere Kant seemed suggestive, and all of Peirce's conclusions may be said to have been stimulated by a study of the master. Yet nowhere does Peirce come to the same conclusions as those reached by Kant. Interest in a given problem was often stimulated by a reading of Kant, yet Peirce's own solution was always different, and often even diametrically opposed to that of his teacher. Thus while Peirce owed much in the formation of his philosophy to the influence of Kant, the result was not Kant's philosophy.

[1] This, and all following references, unless otherwise specified, are to volume and paragraph of the *Collected Papers of Charles Sanders Peirce*, edited by Charles Hartshorne and Paul Weiss (Cambridge, Mass., Harvard University Press, 1931–1935).

[2] Wherever a quotation is not accompanied by a reference number the reference will be presumed to be the last one cited.

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At least two of Peirce's leading preoccupations were emphasized for him by his study of Kant. These were the philosophy of science, and ethics. The *Critique of Pure Reason* turned his attention to the nature of scientific knowledge both in its method and in its aims. The *Critique of Practical Reason* was an important factor in turning his attention to the establishment of a logical basis for ethics. But this account by no means exhausts the extent of the influence of Kant upon him. Perhaps the greater part, though by no means all, of this influence may be discerned in the examination of his philosophical speculations both in their detail and as a system. These influences may be listed as conclusions to which Peirce was led by his profound study of the Koenigsberg philosopher under the following headings: (*a*) the architectonic of philosophy; (*b*) the logical basis of metaphysics; (*c*) the limits of rationalism; (*d*) the limits of empiricism; (*e*) the unity of logic and experience; and (*f*) the logical character of action.

(*a*) *The architectonic of philosophy.* The parallel between philosophy and architecture drawn by Kant was one which Peirce was able to accept (1.176).[3] Philosophy should not have the precious, piquant, and semi-private character which seems to be the property of minute and inconsequential works of art, "executed for a single patron by a single artist." It is rather public and general, not to be shut up in a room but admired by all as the whole edifice. Further, it is not only a building but "a great public building, meant for the whole people," erected by the exertions of an army of representatives, according to plans called forth from the architect's soul. Peirce was thus led by Kant to see that he could not consider philosophy in the English empirical or piecemeal manner only, as a series of assorted subjects to be carefully approached. He must come to it in the grand manner of the best of the German metaphysicians: as a self-consistent body of knowledge, excluding nothing and applicable to everything.

But if a grand system of philosophy was to be developed, what, according to Kant, was to be the method employed? A hint of the answer to this question is contained in the reference to Kant's observation that systematic philosophy had had its method prescribed for it by the example of Euclidean geometry. "The conviction that any metaphysical philosophy is possible has been upheld at all times, as Kant well says, by the example in geometry of a similar science" (1.400). To this suggestion Peirce himself adds a further one. The cosmological, or as Peirce preferred to call it, the secular, character of philosophy demands that philosophy grow

[3] *Kritik der reinen Vernunft*, A 707, B 735, and what Peirce called "that splendid third chapter of the Methodology," A 832 ff., B 860 ff.

"by the fission of minute parts and not by accretion" (1.177). Such a scheme for the development of a system would be feasible only if the whole system were to be planned from the very beginning. "Every person who wishes to form an opinion concerning fundamental problems should first of all make a complete survey of human knowledge" (6.9) as offered by the sciences and by common-sense experience. Thus it was not allowed that a man's mind could wait for development until he had formulated his system; the necessary logical preparation must be made in advance. This preparation Peirce conceived as the replacement of everything particular in his mind by something general. Men are by nature intensely individualistic; they have original ideas and instincts, which are racial ideas. These must be replaced by a "deliberate logical faculty" (1.178), "and the sole function of this logical deliberation is to grind off the arbitrary and the individualistic character of thought."

From the philosopher whose aim was critical rather than constructive,[4] Peirce learned how to construct his own system. Prerequisite for its unity was a plan; for its construction, adequate building materials. Thus pragmatism was developed, as Kant would have said, "architectonically." The "indecomposable concepts" (5.5) needed for its construction were tested as a civil engineer would test his materials before erecting a bridge. Nowhere was Peirce willing to say that he had hold of the final truth. The engineer bears always in mind that despite the excellence of his bridge, later developments will see better bridges constructed. Peirce enlarged Kant's understanding of the definition of hypothesis,[5] and refused to consider even the possibility of attaining to absolute certainty (1.141; 5.587). The belief of some philosophers that they have the absolute truth does not prove that they have it (6.50). Even of that sphere in which Kant placed so much faith in the possibility of arriving at something finally dependable, viz., mathematics, Peirce said that "it is only in a Pickwickian sense that mathematical reasoning can be said to be perfectly certain" (6.595). Unfortunately, Peirce did not succeed altogether in "grinding off the arbitrary and the individualistic character of thought" any more than did Kant, although Peirce made a brave attempt to do so. Probably no one can altogether.

(*b*) *The logical basis of metaphysics.* Having accepted the necessity for a systematic metaphysics, Peirce was next confronted

[4] Kant, *op. cit.*, A 12, B 25: "It should be called a critique, not a doctrine, of pure reason. Its utility, in speculation, ought properly to be only negative, not to extend, but only to clarify our reason."

[5] Kant, *op. cit.*, A 770, B 798.

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with the question of what that metaphysics should be based upon. Philosophy can not start from nothing. Something must always be postulated from which to make a start: a revealed faith, a philosophic authority, or a set of ideas accepted as given. Here Kant was to prove of enormous help. Peirce observed that "Kant's whole philosophy turns upon his logic" (1.35), as does that of Aristotle and all metaphysicians of the first rank (2.121). This, Peirce thought, was as it should be, for a metaphysics not founded on logic would prove "shaky and insecure, and altogether unfit for the support of so important a subject as logic" (2.36). But where Kant's ambition (not entirely fulfilled) had been to render his philosophy chiefly critical, it became Peirce's plan to set up a positive constructive metaphysics upon logic. The "Kantian principle that metaphysical conceptions mirror those of formal logic" (3.487) could be used in the case of a positive as well as of a negative metaphysics. Logic wears a critical dress only where its propositions are considered negatively. But the propositions of logic can also serve as premises from which to deduce a systematic philosophy. Peirce hoped that by this method "exact logic will prove a stepping-stone to exact metaphysics" (3.454). Peirce's entire philosophy is the measure of the success of this attempt.

From Benjamin Peirce's emphasis on Kant (1.560; 2.113) perhaps more than from Duns Scotus or any other source, Charles Peirce gained an intense interest in logic, so much so that it became his chief preoccupation. If Kant's logic had been perfect in Peirce's eyes, there would have been no task left except to deduce a metaphysics from that logic. But Peirce found flaws (3.641),[6] and it may have been the discovery of these flaws that occasioned certain of his studies in logic which led finally to the logic of relatives, in anticipation of much subsequent mathematical or symbolic logic. Kant's regulative principle[7] meant, according to Peirce (6.169 ff.), that every instance of regularity calls for explanation, and it was in terms of the completeness of this explanation that he had endeavored to construct his logic. But Kant had overlooked the medieval logicians (1.560), whose list of categories was larger than his own (2.345–6), and as a consequence had allowed his logic to become entirely an affair of psychology[8] (2.157), an error which the medieval logicians were

[6] E.g., he held that the Kantian distinction (Kant, *op. cit.*, B 9 ff.) between analytical and synthetical judgments is invalid.

[7] Kant, *op. cit.*, A 508 ff., B 536 ff.

[8] Despite his dictum in A 53, Kant considered reason to be an affair of the understanding, which is the ground for all *a priori* rational knowledge: Kant, *op. cit.*, A 15–16, B 29–30. ". . . form must lie ready for the sensations

certainly not guilty of making. He could not have read the schoolmen and then termed all propositions and principles "judgments" as he persisted in doing.[9] This error Peirce lost no time in correcting, but in this way was obliged to combine the best of the two developments of logic which he had learned: Kant and the scholastics.

The escape from Kant lay in the attack upon the limitations of his logic. So many places were discovered where gaps in the categories were in evidence that Peirce said he found himself "blindly groping among a deranged system of conceptions" (1.563). The only method of correcting the system was the one whereby it had been constructed. Peirce accordingly attacked the problem from the side of formal logic. The result was the complete objectification of the Kantian system.

Kant taught that the most fundamental conceptions stem from a system of logical forms, which if examined very closely will prove to be three elementary and primary conceptions of all objects and domains (3.422).[10] In making the transition from logic to metaphysics, Kant naturally took his subjectivism along with him: he thought his categories of knowledge to be essentially psychological (1.374).[11] However, Peirce in correcting the Kantian excesses of subjectivity did not seek to enlarge upon the number of the fundamental conceptions (1.350); he transformed them into objective categories (1.300) where their explanatory value seemed to expand. Increase in the number of categories was still a matter reserved for logic (1.563). Yet there can be no doubt that Peirce's whole ontology, which is constructed upon the three fundamental categories, grew out of his logic, in imitation of the Kantian postulate that logic is ontologically prior to metaphysics.[12]

(*c*) *The limits of rationalism.* With regard to at least two aspects of the philosophy of science, Peirce's conclusions were in direct opposition to those of Kant, despite the fact that he reached them only after a prolonged investigation into Kant's arguments. The first of these conclusions has to do with the limits of dogmatic rationalism. Kant, who was, as he himself said, wakened from his dogmatic slumbers by Hume, advanced the thesis that metaphysics (or ontology) is impossible. By making a breach between knowledge derived from the senses and rational knowledge ("syn-

a priori in the mind": Kant, *op. cit.*, A 20, B 34 (Norman Kemp Smith, trans.). Logic is "the science of the rules of the understanding in general": Kant, *op. cit.*, A 52, B 76.

[9] Kant, *op. cit.*, A 132 ff., B 171 ff. and A 150 ff., B 190 ff.

[10] Kant, *op. cit.*, A 94–95.

[11] Kant, *op. cit.*, A 97.

[12] Cf. *Collected Papers*, Vol. I, Bk. 3.

thetic judgments *a priori*") Kant brought about a difficulty [13] which he himself was forever hopelessly trying to eliminate.[14] Although endeavoring to establish the certainty of the grounds for such knowledge as we do have, Kant was suspicious of the systematic ontologists, and condemned cosmology on the assumption that it consisted of antinomies forever incapable of resolution.

Thus in a sense Kant's whole labors were devoted to preparing the ground for the construction of an ontology which he did not conceive, in the last analysis, to be possible.[15]

Most persons, according to Peirce, would agree with Descartes in assigning the locus of the mind to the pineal gland, but, he added, by those who have studied Kant carefully no such conclusion can possibly be reached (5.128). Kant said that our conceptions do not pass beyond the reach of possible experience. But this would be to "pronounce our whole knowledge of the past to be mere delusions!" (6.108). Kant himself, after positing the things-in-themselves as unknowable by reason of the subjectivity of time, space, and the categories,[16] comes to treat them as external and objective, yet knowable.[17] Kant means that "our knowledge of things in themselves is relative" but that of them "we do have direct experience" (6.95), and all such "experience and knowledge is of that which is independent of its being represented." Such was the burden of the third moment of Kant's thought, Peirce said, made prominent only in the second edition of the *Critique of Pure Reason*, "an idea in which Kant's mind was so completely immersed that he failed to see the necessity for making an explicit statement of it, until Fichte misinterpreted him." This being the case, Peirce felt justified by Kant in adding to the subjective, negative strictures on the experiential limits of rational knowledge which Kant had given, the need for a positive system of realistic philosophy whose objects should take the place of objective things-in-themselves. Although there remained in Peirce's mind some doubt as to whether or not the things-in-themselves were available to direct experience in the Kantian system

[13] The antinomies of pure reason are functions of pure reason alone, and, logically enough, their resolution without any empirical reference is found to be impossible.

[14] Witness his attempt to resolve the antinomies of pure reason by appealing to the distinction between phenomena and noumena, Kant, *op. cit.*, pp. 420 ff.

[15] A hint of this is contained in the beginning of Section II of the Introduction and in the overtones of scattered passages throughout the *Kritik der reinen Vernunft*.

[16] Kant, *op. cit.*, B 118.

[17] Kant, *op. cit.*, B 276–278.

(6.95), it is certain that in the Peircian system they were. Peirce interpreted the emphasis on the realistic phases of Kantian thought in the second edition of the *Critique* as self-correction, as leaning more toward that position toward which Peirce himself was already inclined.

Peirce's assiduous cultivation of the empirical sciences as an aid in the construction of a systematic philosophy is evidence that he had taken to heart the lesson which he had learned early in life. For Kant, who had been at pains to show that a valid metaphysics can not be constructed on reason alone, had by his logical condemnation of rational dogmatism [18] driven Peirce to seek for suggestions and confirmations of the elements of his metaphysics among the evidence offered by the empirical sciences. The unity of reason and empiricism, which Kant had categorically insisted upon but methodologically departed from, was at long last employed by Peirce in the construction of his own metaphysical system. Thus in giving objectivity to Kant's subjective principles, Peirce succeeded in doing for Kant's point of view what Kant himself had failed to accomplish.

Kant's strictures upon systematic metaphysics, therefore, did not have the effect upon Peirce which they exercised upon some later philosophers, of preventing the postulation, at least, of an ontological system. Modern logical positivists believe with Kant that ontology is by nature dogmatic and unconnected with anything empirical and therefore, according to scientific standards, impossible [19]—a view held in part by at least one of Peirce's friends and followers, James.[20] But Peirce took Kant's views in this regard merely as a caution not to be too absolutistic and insistent about metaphysics; to set up systems as tentative and necessitating a later empirical checking. For Peirce, metaphysics is a broad science which must of necessity answer to scientific method and include the other sciences as special branches. Thus, though he started from Kant's position, he came round finally to a far different conclusion.

(*d*) *The limits of empiricism.* The second aspect of the philosophy of science about which Peirce learned much from Kant has to do with the limits of empiricism. Kant maintained that genuine knowledge is universal and necessary,[21] and here Peirce gave his assent. He agreed also with Kant that universal and necessary

[18] Kant, *op. cit.*, p. 382.

[19] E.g., Rudolf Carnap, *Philosophy and Logical Syntax* (London, 1935), Part I.

[20] *The Will to Believe* (New York, 1923), pp. 39, 67 ff.

[21] Kant, *op. cit.*, A 2.

knowledge concerns the order of ideas. Where Kant had found some relations between the categories, Peirce sought others (4.2). The difference came with the understanding of the term "ideas." An idea (*Idee* for Kant) was "a concept formed from notions and transcending the possibility of experience,"[22] or, in other words, for Kant a subjective affair. Peirce, on the other hand, defines an idea as "the definition of a class,"[23] a completely objective affair.[24] For Kant all true knowledge was half mental, in that we can have no knowledge of things-in-themselves. But for Peirce, the ideas, or, as he called them, the generals, had an external and objective existence. The generals did not have to be actual; they could also be possible; but the possibility was that of an objective actualization. Such generals were capable of being as well as of being known. Following Kant's principle that "all our knowledge begins with experience,"[25] Peirce concluded that the generals of which we gain knowledge must have been suggested by our actual experience, that is, by our experience with the actuals which exemplify logical possibility.

Thus Peirce seized upon the rational aspect of Kant's thought to prevent his own development from leading to that radical empiricism according to which no generalizations are possible beyond those contained in the immediate data at hand. Kant himself had offered a warning against empirical dogmatism, following a counterblast to the rational dogmatism, represented by one variety of Platonist. If it is true that reason can not proceed without experience, it is equally true that experience can not proceed without reason. The latter assumption, namely, that experience does not need reason, constitutes the excess of empirical dogmatism. Peirce was aware that all scientific experimentation involves some tacitly assumed laws of logic. He saw philosophy degenerating into dogmatic psychology in the hands of Kantians who maintained the critical school's preoccupation with the problem of knowledge. He saw that the criterion of knowledge is not to be found in epistemology itself but rather in a logical examination of the presuppositions of empirical research, a theoretical reason which is closely related to its practical applications. He was led on from this to the study of logic and proclaimed its affinity with mathematics.[26] Thus once more Peirce began with Kant and ended at a position diametrically opposed to that of Kant. Beginning

[22] Kant, *op. cit.*, B 377 (Norman Kemp Smith trans.).
[23] Peirce, 1.214.
[24] Peirce, 1.217.
[25] Kant, *op. cit.*, B 1.
[26] Peirce, 2.215; 2.76.

with Kant's denial of the ability of science to reach any valid conclusions without the aid of the understanding of rational principles, he moved away from Kant almost at once in the effort to find objective grounds for those principles.

(*e*) *The unity of logic and experience.* Let us go back, said Peirce in effect, and seek in the work of Kant some suggestions as to the unity of logic and experience. The leading question of Kant's great work was, "How are synthetical judgments *a priori* possible?" (5.348). Peirce tells us that *a priori* means universal, and that synthetic means relating to experience (5.92). Thus in Peirce's terms Kant's question would read, How are universals related to experience, or rather, How can we justify (i.e., explain) the relations of universal propositions to the world of actual particulars? This question can not be answered until we understand the relation of reasoning to experience (2.690 ff.). Kant offered a solution in the doctrine of the combination of percepts and concepts, since, he said, neither the intuition of objects nor the *a priori* understanding can function alone;[27] but Kant rejected this solution when he posited the truistic and circular nature of analytical reasoning.[28] Kant condemned all analytical reasoning to the limitations inherent in the *petitio principii;* he held "that the conclusion is thought in the premisses although indistinctly" (4.51). He distinguished between things known immediately (the three angles of a triangle) and things inferred (their sum equals two right angles).[29] But the geometric inference depends upon other factors, such as the criterion of measurement adopted. Thus what Kant says is known is demonstrable, but what he says is demonstrable is not so.

It is probable that in Kant's understanding of the syllogism, time was a factor.[30] Premises are antecedents and the conclusion a consequent, which is an example of one type of syllogism, namely, the actual syllogism, but is by no means true of most types which are logical and necessary and thus independent of the temporal order. This confusion resulted from Kant's prejudice against the scholastic method of attempting to answer questions relating to actuality by making logical distinctions. Peirce's criticism is fair, and is not one calling for Kant's particular resolution. The error led Kant to assume that the conclusion of a syllogism is *thought* in the premises, and thus involved him in a

[27] Kant, *op. cit.*, A 51, B 75: "The understanding can intuit nothing, the senses can think nothing. Only through their union can knowledge arise." Cf. also *supra.*

[28] Kant, *op. cit.*, A 7 ff., B 11 ff.

[29] Kant, *op. cit.*, A 303; cf. A 716, B 744.

[30] Kant, *op. cit.*, B 360, B 387.

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reversion to subjectivism (4.52).[31] But the truth of Fermat's theorem, for example, can not be discovered by considering the premises of the theory of numbers, as Peirce pointed out. The conclusion of a syllogism may be *contained* in the premises, but it is never *thought* in it. It is not only discovered *after* it, but also follows *from* it (4.53).

Thus was Peirce led through his criticism of the logical shortcomings of Kant's logic to the view that the syllogism may be a truism but is also an instrument of discovery. It was but a short step from this statement to the next, that deductive reasoning has valid application to experience. In another place, Peirce worked out from Kant's "Transcendental Aesthetic," particularly from the assertion that universality and necessity in scientific inductions are the analogues of philosophic universality and necessity, a conclusion which refutes Kant's own statement that universal and necessary propositions are not given in experience (5.223 n.2).[32] For Kant had a second principle which asserted that the truth of universal and necessary propositions is dependent upon the conditions of the possibility of experience, which, as Peirce says, "is no more nor less than the principle of induction."

Thus by taking both experience and reason as the starting point, Peirce deduced from Kant's original position the conclusion that logic and experience (or experiment) are interdependent in any and every instance of valid knowledge.[33] This was a conclusion which was to have an all-important effect upon basic propositions in Peirce's whole metaphysical outlook. Peirce was to build upon certain postulates implicit in Kant's assumptions, by a chain of reasoning which Kant himself had failed to carry to its logical conclusion.

(*f*) *The logical character of action.* It was in the effort to demonstrate the relatedness of logic and experience that Peirce succeeded where Kant had failed. The two Critiques, of Pure and Practical Reason, fell apart, as many subsequent critics have observed. The attempt to deduce the Categorical Imperative from pure reason presented its own peculiar difficulties, as Kant himself was aware.[34] The Categorical Imperative never did en-

[31] Kant, A 154.

[32] Kant, *op. cit.*, "Transcendental Doctrine of Elements," First Part, "Transcendental Aesthetic."

[33] Kant evidently despaired of ever finding the origins of this interdependence, for he set up *sensibility* (i.e., experience) and the *understanding* (i.e., logic) as "two stems of human knowledge, which perhaps spring from a common, but to us unknown, root": *op. cit.*, A 15, B 29.

[34] Immanuel Kant, *Critique of Practical Reason*, trans. T. K. Abbott (London, 1898, Longmans Green), p. 136.

tirely justify itself in connection with either the "Transcendental Aesthetic" or the "Transcendental Logic." Kant was forced to make a leap from his critical philosophy to his leading principle of ethics, which seemed quite unjustified. But Peirce was no Kantian; he was instead a student of Kant. He saw the shortcomings as well as the merits of his teacher. In attempting to close the gap between pure reason and practical action which Kant had never succeeded in doing properly, although fully aware of the necessity, Peirce found the formula for satisfactorily tying up ethics with the philosophy of science. The transition is, in fact, typical of the influence of Kant on the development of Peirce's ideas.

Kant saw the unity of pure reason and empirical knowledge *in the mind,* but never succeeded in making it hold because of his postulation of an essentially unknowable real world. "Thoughts without content are empty, intuitions without concepts are blind," he said;[35] but the percepts originated in sensations of an actual phenomenal world, whereas the concepts were an *a priori* product. Such a union could never be productive because the breeds were too far apart. Kant was never able to explain satisfactorily how the "understanding," which is itself the "source of the laws of nature"[36] and of space, time, and the categories as well[37] could produce conceptions whose "distinguishing feature consists in just this, that they relate to their objects without having borrowed from experience anything that can serve in the representation of those objects."[38] Peirce's improvement was to maintain the same unity *outside the mind,* in an external and objective and knowable real world. The union became for Peirce not one of percepts and concepts, or of pure reason and practical action, but rather of generals and forces, generals and reactions as he called them. Generals and reactions inhabit the same regions of existence, and are two sides of the same coin. Generals are apprehended by the mind in acts of cognition; reactions take place in an objective real world, where they illustrate generals.

Through the effort to point out the difference between Kant's conception of this relation and his own, Peirce's doctrine of pragmatism was born.[39] "Consider," he said, "what effects, that

[35] Kant, *Kritik der reinen Vernunft,* Norman Kemp Smith trans., A 51.

[36] Kant, *op. cit.,* A 127.

[37] Kant, *op. cit.,* B 118.

[38] Kant, *op. cit.,* A 86. Cf. also B 118.

[39] Peirce mentions many precursors for pragmatism, especially Kant, Berkeley, and Spinoza (5.412). It was clearly the study of Kant, however, which had the most to do with furnishing the occasion for Peirce's enunciation of the doctrine.

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might conceivably have practical bearings,[40] we conceive the object of our conception to have. Then, our conception of these effects is the whole conception of the object" (5.402). Or, in other words, the objective and external effect in the world of a conception is the meaning of that conception. That was only another way of saying that Kant's percepts and concepts are the mental counterparts of reactions and generals. "A premiss," said Peirce, "is something we hope is true," and we find out whether it is or no by exhausting the experiential meaning of the premise. Thus pragmatism was a child born of the union of logic and experience. Kant had suggested that logic and experience[41] were united by the mind, in which they became incapable of further analysis, but Peirce supposed them to be one, quite apart from and independent of the examining mind.

Once having established pragmatism as a procedure based upon the external unity of logic and experience, Peirce turned his attention to the problem of uniting ethics with this doctrine. Here again he went beyond Kant, who had in this field of endeavor met with failure. In Kant's terms the Categorical Imperative failed to rest, as it was supposed to do, on the grounds established for the pure reason.[42] The whole Kantian orientation of ethics in terms of the individual, from which Kant had tried unsuccessfully to get away,[43] is illustrated in the "hypothetical imperative" of the end of happiness as the purpose of human beings.[44] Self-love is the usual spring of most men's action, as Kant had observed,[45] but Peirce was able to detect in the direction of human endeavors based on self-love another sort of end altogether. The demands of logic would require us to identify our interests, since we are selfish, with those actual things which persist the longest. For we do not wish to have the objects of our interests perish and so see the interests themselves defeated. But through the use of Peirce's experimental logic we are enabled to discover that there is nothing actual which has persisted forever. Loved ones, friends, neighbors, social groups, states, humanity, even the geologic universe, must finally cease to exist. We are thus driven, if we would

[40] The phrase "practical bearings" does not reintroduce subjectivism, since it may refer to something as well as to somebody's actual or possible experience.

[41] I.e., in Kant's terminology, "the understanding" and "sensibility."

[42] As Kant himself saw, *Critique of Practical Reason*, T. K. Abbott trans., p. 84.

[43] Kant, *op. cit.*, p. 27, n.1.

[44] Kant, *op. cit.*, "Fundamental Principles of the Metaphysics of Morals," p. 32.

[45] Kant, *op. cit.*, p. 24.

be logical, to the apparent paradox of identifying our selfish interests with what does persist the longest, namely, an endless series of brief-lived things: an unlimited community (2.645–655). For Kant's "kingdom of ends"[46] Peirce substituted a hierarchy of means and ends, such that everything is both relative means and absolute end, in a series. Thus ethics rests on logic and experience, and both reason and the practical world are shown to make a unity with moral action.

Peirce was able to exhibit a consistency where Kant, because of a fundamental contradiction between the realism of the second edition of the *Critique of Pure Reason* and the nominalism of his subjective *a priori* reason, had had to abandon his metaphysics and fall back upon an instinctive feeling for what is right, in order to develop the proper ethics. But although Peirce produced a more self-consistent philosophy it was Kant who had demonstrated the necessity. From the Kantian attempt to support the moral law upon reason directly and not through mediation of the field of the normative sciences as a whole, Peirce had learned something. The latter's improvement was to discover that self-consistency between metaphysics and ethics could be gained not by the mediation of certain rules for the normative sciences but rather by subordinating ethics to a general doctrine of practice as well as of metaphysics.[47] The broadening of ethics resulted in a general normative doctrine applicable also to natural scientific method and thus one which bridged the gap between the normative and the empirical.

Both pragmatism and the ethics of the unlimited community as well as the more purely rational and empirical elements of Peirce's philosophy owe much to Kant. It should not be surprising that the ethical doctrines of both men eventually appeal to an implicit principle of ultimate unity—Kant in the assumed basis for the unity of pure *a priori* reason and practical action; Peirce in the integrating principle of the unlimited community—which proves to be the ground whereby action can be moral at all.

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NEW ORLEANS,
LOUISIANA

[46] Kant, *op. cit.*, p. 51.

[47] "The present writer was a pure Kantist until he was forced by successive steps into Pragmaticism," Peirce wrote (5.452). Pragmaticism was a later, more realistically formulated, version of pragmatism.

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A COMMENT ON PEIRCE'S "TYCHISM"

ONE of the most fascinating theories that C. S. Peirce advanced is his doctrine of Tychism. It is both daring and provocative; unfortunately, it is also somewhat baffling. Had Peirce ever worked out fully the systematic presentation of his speculative philosophy as he so often promised to do, the task of later commentators would no doubt be much simpler. Since he did not do so, however, the best one can do is to try to determine from the papers and fragments he left what he had in mind. It would be presumptuous indeed to attempt a complete reconstruction of his system; yet surely it is legitimate to endeavor to expound certain aspects of his thought that are clearly fundamental. It is the purpose of this paper, therefore, to undertake the exposition and, I hope, the clarification, of his doctrine of chance, so aptly called "Tychism."

The doctrine of Tychism is closely bound up with the doctrine of the categories, Firstness, Secondness, and Thirdness, in terms of which Peirce thought the universe should be interpreted. The Firstness of a thing is its positive qualitative possibility, what it is in itself without regard for anything else; it is "suchness," *sui generis*. The Secondness of a thing is the mode of being a thing has by virtue of being related to something else; it is the being of actual or brute fact. Thirdness is the being of that which is what it is by virtue of the fact that it mediates between two other things; it is the being of law. Such a brief statement is, of course, incomplete and inadequate for any real understanding of the categories, but perhaps it may serve as a reminder and be sufficient to make somewhat intelligible references to the categories in the exposition which follows.

With these preliminary distinctions in mind, let us now consider the meaning of Tychism. One of the easiest ways to approach the meaning of a theory is to discover what the theory opposes or denies, and why it does so. Briefly, Peirce, in his theory of Tychism, was denying the position of the necessitarians who maintain that "the state of things existing at any time, together with certain immutable laws, completely determine the state of things at every other time."[1]

One line of attack that Peirce uses against such a position is that of showing the inadequacies of the arguments commonly used

[1] *Collected Papers of Charles Sanders Peirce*, edited by Hartshorne and Weiss, Vol. VI, paragraph 37. In the remainder of this paper, all references will be to these volumes and will indicate simply the volume and paragraph, thus: 6.37.

or thought to establish the position. For example, one of the main arguments of the necessitarians is that their position is a presupposition or a postulate of science. Against this argument, Peirce has two things to say. First, he points out that even if this were the case it would not prove the theory, for "To 'postulate' a proposition is no more than to hope it is true" (6.39). Second, it is not, as a matter of fact, true that science makes such a presupposition or postulate. "Considering, too, that the conclusions of science make no pretence to being more than probable, and considering that a probable inference can at most only suppose something to be most frequently, or otherwise approximately, true, but never that anything is precisely true without exception throughout the universe, we see how far this proposition in truth is from being so postulated" (6.39). In fact, such a postulate would be of no use to science since it would enable scientists to say no more than they can eventually without the postulate.

> For what is a postulate? It is the formulation of a material fact which we are not entitled to assume as a premiss, but the truth of which is requisite to the validity of an inference. Any fact, then, which might be supposed postulated, must either be such that it would ultimately present itself in experience, or not. If it will present itself, we need not postulate it now in our provisional inference, since we shall ultimately be entitled to use it as a premiss. But if it never would present itself in experience, our conclusion is valid but for the possibility of this fact being otherwise than assumed, that is, it is valid as far as possible experience goes, and that is all that we claim. [6.41.]

Another argument often advanced by the necessitarians is that the proposition they maintain is either proved to be true or rendered highly probable by the observation of nature. To this argument, Peirce answers:

> Those observations which are generally adduced in favor of mechanical causation simply prove that there is an element of regularity in nature, and have no bearing whatever upon the question of whether such regularity is exact and universal or not. Nay, in regard to this *exactitude*, all observation is directly *opposed* to it; the most that can be said is that a good deal of this observation can be explained away. Try to verify any law of nature, and you will find that the more precise your observations, the more certain they will be to show irregular departures from the law. [6.46.]

In this way, Peirce not only disputes the claim of necessitarians but also foreshadows something of his own positive doctrine, for by reminding us that a theory of necessity does not adequately account for all our observations of nature, he has laid the foundation for his proposal that some other theory may be more adequate.

In this connection, Peirce considers the claim that the notion of chance is unintelligible, and should therefore not be used as an

hypothesis about the nature of the universe. The necessitarians argue that to say things happen by chance is to tell us nothing about their how or why and thus does not explain phenomena as reason would have them explained. Peirce's answer to this argument constitutes his second line of attack, for his chief reason for advocating Tychism is that by the use of chance in his hypothesis he believes that he can explain more than he could if he did not admit the presence of a chance factor in the universe. As will appear later, however, his justification of that belief is not wholly free from ambiguity; this paper must therefore attempt to clear up the ambiguity if Peirce's claim is to be evaluated critically.

Peirce does not, of course, assert that there is *no* law in the universe. On the contrary, he maintains that an absolutely chance world would be a contradiction and hence impossible (6.404). Complete lack of order is itself a sort of order.

The position he advocates is rather that there are in the universe both regularities and irregularities. Furthermore, he believes it is not sufficient merely to state that there are regularities and to describe them; an adequate metaphysical theory must also explain how the regularities came about. Otherwise the presence of law in the universe is an ultimate and inexplicable fact. He admits that facts of pure Firstness or pure Secondness are not capable of explanation. But facts of Thirdness are, he thinks, precisely the facts that can be and need to be explained (1.405).

One such fact is law itself, and the explanation of its presence lies, Peirce maintains, in a theory of evolution, whereby *from chance* law develops (1.407; 6.13). The hypothesis that, out of irregularity, regularity is gradually evolving, seems to him to have decided advantages over the necessitarian hypothesis. For one thing, it explains why laws are not precisely or always obeyed, for what is still in a process of evolution can not be supposed to be absolutely fixed. Also, he believes, it provides a better account of the great variety of nature than would the supposition that all the variety has always been present (as the necessitarians would have to suppose, since "exact law obviously never can produce heterogeneity out of homogeneity," 6.58). It is especially important that variety be explained by an evolutionary theory since Peirce believes that the variety of things is constantly increasing (6.58).

But what precisely is this evolutionary hypothesis that will explain so much? Peirce's description of it is somewhat fanciful and vague, but his meaning is fairly clear. Briefly, he suggests that we assume that in the imagined original state of the universe

there were only Firsts and Seconds—merely pure qualities and relations between them (6.193; 6.200). But in that original chaos there happened, by chance, to be a tendency toward uniformity, a tendency of things to take habits. And this habit-taking tendency grew ever stronger until we get the emergence of law as we know it (1.412; 6.33). The universe is now somewhere between the limits of complete indeterminacy and complete determinacy. But in so far as the universe in time is concerned, the limit of indeterminacy was never actual nor will the limit of determinacy ever be reached. They are simply ideal limits, never experienced in themselves, but pointed to by our experience, since recognition of them enables us to explain what we do experience, namely, both regularity and irregularity. We find that all things have a tendency to develop habits and thus we find increasing uniformity. On the other hand, we find that things in the course of evolution have become increasingly complex and diversified; thus there must always be an element of spontaneity at work.

Peirce, however, is not altogether clear or consistent concerning what he means by the chance factor in the universe. Sometimes he is definitely talking about absolute chance as when, for example, he identifies chance with pure Firstness which he describes as initiative, spontaneous, original, and new. It is to this meaning of chance he refers apparently when he insists that there are now sporadic divergencies from law. But he admits explicitly another meaning of chance—"that which, while causally necessary, is not necessary teleologically; the unplanned, the fatalistic" (6.366). It is plainly to this sort of chance he refers when he speaks of chance as a property of distribution. The example he gives of a chance or fortuitous distribution is an infinite collection of things involving blueness and smoothness which are so arranged that the blueness and smoothness are independent of each other. That is, from the fact that one member of the collection is blue we can infer nothing about its being smooth or not smooth and nothing about the blueness or smoothness of any other object in the collection. Furthermore, we must suppose that the things which are blue and the things which are not blue are so mixed that we can discern among them no order; and the same would hold true of the smooth and non-smooth things. Of course, as has been pointed out above, this very lack of order is a sort of order. The things with their various and independent characters will be arranged in some way even though the way in which they are arranged would not enable us to draw the conclusions we might like to draw. "Order" is merely a relative term. When a particular order is related to our purposes and desires, we may say that the

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collection is ordered. When we find no relation between the order and our purposes (when, for example, the order is so complicated that it does not enable us to make predictions), we say that the collection is unordered (6.74 ff.).

Closely connected with the notion of fortuitous distribution in which independence of character plays such an important part is another meaning Peirce gives to chance, namely, the sort of relationship we usually term coincidence. For example, it might be that there is in the universe more than one system of causation in each of which everything within the system is determined by something else within the system, but each system as such is quite independent of other systems. When things from different systems, each one determined by law in its own system, come together, we have a pure coincidence, since their coming together was not the result of the laws within the systems (6.93).

We may now, keeping these various meanings of chance in mind, inquire whether or not Peirce's claim that chance is intelligible as a useful explanatory hypothesis is valid. He himself admits that simply to say something is the result of chance is no explanation (6.13). What is necessary is that the supposition that there is chance in the universe should enable us to predict certain observable phenomena. But what sort of chance does enable us to predict? Surely not absolute chance in its character of pure Firstness, for what is an instance of Firstness as such is by definition completely unrelated to everything else. Nor can he mean chance as a property of distribution since a chance or unordered distribution is one that does *not* enable us to predict. Nor does he believe that we can explain something by calling it a coincidence, for, again, to say something is merely coincidence is the same as saying that it can not be deduced from a single general law or from the character of a given single system.

So far, then, it does not seem to be the case that chance, as defined by Peirce, is intelligible in the way he claims it is. It is evident to me, therefore, that Peirce is really thinking of chance in some other way even though he does not specify that way precisely. The clue to what he has in mind lies, I believe, in his insistence that "chance has laws" (6.606) and that the specification of the universe is to be attributed "to chance in the form of a spontaneity which is to some degree regular" (6.63). In other words, Peirce actually attributes to chance (as it is used in his theory of Tychism) a character of Thirdness. When we consider the existence of irregularities or sporadic events, we find that, although each one by itself is inexplicable, nevertheless the whole range of irregularities exhibits a certain amount of regularity,

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from a knowledge of which certain predictions could be made. In view of the rest of Peirce's philosophy, the most plausible interpretation of this point seems to me to be that, inasmuch as the laws of nature are habits and inasmuch as one of these habits is the habit of departing from other habits, we may expect to find in experience a class of irregularities. That is, we should be able to predict that in a certain proportion of cases, there will be obedience to the more or less fixed laws of nature, but that in a certain other proportion of cases, there will be lack of obedience to those laws. Peirce never explicitly recognized that he was attributing a character of Thirdness to chance; in fact he often speaks as if that were impossible. But in at least one place he seems to have been close to such recognition, for he says, "If, therefore, we should detect any general phenomenon of nature which could very well be explained, not by supposing any definite breach of the laws of nature, for that would be no explanation at all, but by supposing that a continual breach of all the laws of nature, every day and every second, was itself one of the laws or habitudes of nature, there would be no power in induction to offer the slightest logical objection to that theory" (5.587).

If my interpretation is correct, it does seem that the theory of Tychism is intelligible in the way Peirce claims it to be, and perhaps merits more attention than it has so far received. Merely to dismiss it as a bit of metaphysical woolgathering would be to "block the path of inquiry" dogmatically and indefensibly.

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PEIRCE'S SIXTY-SIX SIGNS

I

CHARLES S. PEIRCE is one of the great figures in the history of semiotics. It would not be an exaggeration, in fact, to maintain that he is the founder of the modern theory of signs, and its most persistent and subtle student. His writings, however, are somewhat hard to understand. Part of the reason is the complexity of his doctrine. There is also the fact that his terminology is not constant, raising doubts as to whether or not he has changed his thesis with his terms. But perhaps the greatest difficulties stem from the necessity of understanding and keeping clearly distinguished (*a*) Peirce's single trichotomy of "categories," (*b*) his triply trichotomous, and (*c*) decimally trichotomous "division" of signs as well as (*d*) his ten-fold and (*e*) sixty-six-fold "classifica-

tion" of signs. It is the intent of this paper to lay bare the principles which governed Peirce's classifications, to make public for the first time the nature of his final decimally trichotomous division, and to show how it yields sixty-six different classes of signs.

II

Peirce's theory involves the use of five principles:

1. There is a single triadic set of categories in terms of which all phenomena are to be classified.[1] A phenomenon is either a *First*, something in itself; a *Second*, an existent in dyadic relation to something else; or a *Third*, a mean inseparable from a law or purpose.

2. A triadically determined object exemplifies all three categories (2.238). Since a sign is defined as "something which stands to somebody for something in some respect or capacity" (2.228), it is triadic in nature. By principles 1 and 2, one obtains three *divisions* of signs: the sign in itself, the sign as related to its object, and the sign as interpreted to represent an object. These divisions determine the three columns in Table 1 (Section III).

3. Each division is subject to all three categories (2.243). Accordingly, each division is trichotomous. For example, the sign as related to its object (the second of the three divisions) may be similar to, may be existentially connected with, or may be referred by means of a law to, its object. By principles 2 and 3 we obtain the three *trichotomies* given in Table 1 (Section III).

4. Thirds have two degenerate forms, Seconds one degenerate form (1.365). The application of this principle to the three divisions yields *ten* divisions.[2] These give the ten columns in Table 3 (Section IV). By principle 3, the ten divisions yield the ten *trichotomies* we present Table 3.

5. Whatever is a First determines only a First; whatever is a Second determines a Second or (degenerately) a First; whatever is a Third determines a Third, or (degenerately) a Second or a First (2.235). The application of this principle to the three trichotomies of Table 1 yields ten *classes* of signs; these we present in Table 2 (Section III). The application of this principle to the ten trichotomies of Table 3 yields the sixty-six *classes* of signs we list in Table 4 (Section V).

[1] *Collected Papers of Charles Sanders Peirce*, edited by Charles Hartshorne and Paul Weiss, 1.295–99; 1.418–421.

[2] This principle also leads Peirce to affirm not only that there are two kinds of propositions (2.265) and three kinds of arguments—abduction, deduction, and induction (2.266)—but also two kinds of deductions (2.267) and three kinds of inductions (2.269).

It is to be noted that the first three principles involve successive applications of the categories, while the last two principles are different formulations of Peirce's view that something in one category can never determine anything in a higher category.

III

Peirce's three trichotomies of signs are part of his final ten trichotomies. The ten classes he derives from his three trichotomies are part of the sixty-six classes he derives from his ten trichotomies. His final classifications of ten trichotomies and sixty-six classes of signs thus contain his other classifications as subordinate parts.

Peirce's final classification of signs, presented in Section V, is mentioned here and there in the published material.[3] It is the product of a slow but persistent development covering a period of about forty years.

It was in a paper entitled "On a New List of Categories" (1.558) published in 1867 that Peirce first stated that there were three kinds of "representations."

"First. Those whose relation to their objects is a mere community in some quality, and these representations may be termed *likenesses.*[4]

"Second. Those whose relation to their objects consists in a correspondence in fact, and these may be termed *indices* or *signs.*[5]

"Third. Those the ground of whose relation to their objects is an imputed character, which are the same as *general signs,* and these may be termed *symbols.*"

This trichotomy of signs was always a fundamental one for Peirce. It was only gradually that he saw it as but one of ten. In the very same paper (1.559) he subdivided symbols into terms, propositions, and arguments. He did not then see that both propositions and terms could be indices as well as symbols, and that terms could also be icons. Around 1903, however, he formulated and employed principle 3 on the three divisions obtained by principle 2. This gave him the following three separate divisions and trichotomies of signs (*cf.* 2.243–253), of which the second trichotomy is the counterpart of the trichotomy first stated in 1867:

TABLE 1

	(*A*) *Signs in Themselves*	(*B*) *Signs in Relation to Objects*	(*C*) *Signs Interpreted to Represent*
1. *First*	Qualisign	Icon	Rheme
2. *Second*	Sinsign	Index	Proposition
3. *Third*	Legisign	Symbol	Argument

[3] *See* 1.291, 4.531, 4.536, and 4.536n. See also quotations from the letters to Lady Welby in Ogden and Richard's *Meaning of Meaning,* pp. 440 ff.

[4] This term is soon abandoned in favor of *icons.*

[5] Subsequently, all three kinds of representations were termed "signs."

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By principle 5, the above three trichotomies yield the following ten classes of signs (2.254–65):

TABLE 2

A B C	*Name of Sign*	*Example*
1–1–1	Qualisign	A feeling of "red"
2–1–1	Iconic Sinsign	An individual diagram
2–2–1	Rhematic Indexical Sinsign	A spontaneous cry
2–2–2	Dicent Sinsign	A weathercock or photograph
3–1–1	Iconic Legisign	A diagram, apart from its factual individuality
3–2–1	Rhematic Indexical Legisign	A demonstrative pronoun
3–2–2	Dicent Indexical Legisign	A street cry
3–3–1	Rhematic Symbol (Symbolic Rheme)	A common noun
3–3–2	Dicent Symbol (Proposition)	Proposition
3–3–3	Argument	Syllogism

IV

Ten trichotomies of signs are obtained from the three trichotomies of the foregoing section by use of principles 4 and 3. Principle 4 requires one to distinguish one division of signs in themselves, two divisions of objects of signs, and three divisions of interpretants. By principle 3 these six divisions yield six trichotomies. In addition to these six trichotomies, there is a trichotomy of signs as related to their dynamic objects, another of signs as related to their dynamic interpretants, another of signs as related to their final interpretants, and a tenth trichotomy of signs classified on the basis of the relation which their final interpretants have to the objects of the signs. This ten-fold trichotomy of signs is given below, with terms obtained from published and unpublished papers, alternative expressions being given in parentheses:

TABLE 3

(*A*) *Sign Itself*	(*B*) *The Nature of the Degenerate or Immediate Object*
(1) *First* Qualisign (Tone, Potisign, Mark)	Descriptive
(2) *Second* Sinsign (Token, Actisign, Replica)	Denominative (Designative)
(3) *Third* Legisign (Type, Famisign)	Copulative (Copulant)

(*C*) *The Nature of the External or Dynamic Object*	(*D*) *The Nature of the Doubly Degenerate or Immediate (Destinate, Emotional) Interpretant*	(*E*) *The Nature of the Singly Degenerate or Dynamic (Effective, Energetic) Interpretant*
Abstractive	Hypothetical	Sympathetic
Concretive	Categorical [Singular]	Percusive
Collective	Relative	Usual

TABLE 3—(*Continued*).

(*F*) *The Nature of the Final (Explicit, Logical) Interpretant*	(*G*) *Relation of Sign to Dynamic Object*	(*H*) *Relation of Sign to Dynamic Interpretant*
Gratific	Icon (Likeness)	Suggestive (Ejaculatum)
Practical	Index	Imperative (Interrogative)
Pragmatistic	Symbolic (General Sign)	Indicative (Cognificative)

(*I*) *Relation of Sign to Final Interpretant*	(*J*) *Relation of Final or Logical Interpretant to Object*
Rheme (Seme, Term, Sumisign)	Assurance by Instinct
Dicent Sign (Pheme, Proposition)	Assurance by Experience
Argument (Delome, Suadisign)	Assurance by Form (Habit)

V

By principle 5, the above ten trichotomies yield sixty-six classes of signs. Peirce did not provide names for these sixty-six so that what follows below is but a schema showing their derivation and composition.

As is evident from Table 4, in addition to one kind of qualisign, there are ten classes of sinsigns and 55 classes $(10 + 9 + \ldots + 1)$ of legisigns. Principle 5 determines how many possible classes of signs there can be for any given number of trichotomies. In general, n trichotomies yield $1 + n + (n + \ldots + 2 + 1)$ or $(n + 1)(n + 2)/2$ classes. Six trichotomies must then, as Peirce remarks [6] in his letters to Lady Welby, yield 28 classes.

In 2.264 Peirce indicates that the name of the last class can be shortened to that of the last term. "Argument" thus suffices to identify a legisign symbolic argument. This is a corollary from principle 5, since an argument which is a Third can use only legisigns and symbols. The last class of the above sixty-six, which would properly be expressed as a compound of ten terms, can therefore be described as a sign which assures one of the nature of its object by means of a form or habit, or briefly, as "a sign significatory by form or habit." [7] It is such a sign which is the ultimate goal of a pragmatic quest. "Now the problem of what the 'meaning' of an intellectual concept is can only be solved by the study of the interpretants or proper significate effects, of signs" (5.475). "Consequently, the most perfect account of a concept that words can convey will consist in a description of the habit which that concept

[6] Ogden and Richards, *op. cit.*, p. 444.

[7] Another corollary is that "qualisign" is the name of the first class and that the final interpretant of a qualisign and thus of a term can only be "assurance by instinct."

TABLE 4

A B C D E F G H I J	
1–1–1–1–1–1–1–1–1–1	One sign
2–1–1–1–1–1–1–1–1–1	Ten signs
2–2–1–1–1–1–1–1–1–1	
2–2–2–1–1–1–1–1–1–1	
2–2–2–2–1–1–1–1–1–1	
2–2–2–2–2–1–1–1–1–1	
2–2–2–2–2–2–1–1–1–1	
2–2–2–2–2–2–2–1–1–1	
2–2–2–2–2–2–2–2–1–1	
2–2–2–2–2–2–2–2–2–1	
2–2–2–2–2–2–2–2–2–2	
3–1–1–1–1–1–1–1–1–1	Fifty-five signs
3–2–1–1–1–1–1–1–1–1	
3–2–2–1–1–1–1–1–1–1	
3–2–2–2–1–1–1–1–1–1	
3–2–2–2–2–1–1–1–1–1	
3–2–2–2–2–2–1–1–1–1	
3–2–2–2–2–2–2–1–1–1	
3–2–2–2–2–2–2–2–1–1	
3–2–2–2–2–2–2–2–2–1	
3–2–2–2–2–2–2–2–2–2	
Next come 9 signs which start with 3–3	
Then come 8 signs which start with 3–3–3	
Then 7 signs which start with 3–3–3–3	
Then 6 signs which start with 3–3–3–3–3	
Then 5 signs which start with 3–3–3–3–3–3	
Then 4 signs which start with 3–3–3–3–3–3–3	
Then 3 signs which start with 3–3–3–3–3–3–3–3	
3–3–3–3–3–3–3–3–3–1	
3–3–3–3–3–3–3–3–3–2	
3–3–3–3–3–3–3–3–3–3	

is calculated to produce" (5.491). The meanings the pragmatist is concerned with clarifying are thus those whose final interpretants relate to objects by means of deliberately formed, self-analyzing habits (5.491). Pragmatism clarifies the meanings of arguments rather than of isolated terms or propositions, and does this by referring them to deliberately formed habits as their proper interpretants.

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BOOK NOTES

Moira. Fate, Good, and Evil in Greek Thought. WILLIAM CHASE GREENE. Cambridge: Harvard University Press. 1944. viii + 450 pp. $5.00.

This is the history of an idea, or group of intimately related ideas, as its significance was developed for over a thousand years of Hellenic civilization. The idea of fate dominated many phases of poetry, theology, and philosophy from the Homeric age to the rise of Christendom, when at length fate, as it were, became wholly providential. Analogous ways of thought are, of course, to be found elsewhere. But the Greeks humanized fate to a far greater extent. Consequently it was more easily assimilated to the beliefs of Hebrew and Christian theism. The Greek mind was apt to perceive the significance of fate most clearly in the conflict of unseasonable circumstance with human character and its aspirations in art, morality, and politics. The intimate relations of *Moira* to beliefs about right and wrong, and to notions of good and evil, receive their due emphasis in this book.

The distinctive feature of Greek thought about fate was not simply that *Moira* was directly connected with human welfare, but that the nature of the connection became increasingly problematic and debatable. In other words, the Greeks were like many other peoples of antiquity in accepting fate as an inexorable power for good and evil; but they differed from others in their persistent refusal to acquiesce in that supposed power without questioning its *modus operandi.* They wondered how and why *Moira* works as it does, whether by chance or design, by necessity or reason. Fate was inexorable, but might not its effects be tempered by mercy and its blows offset by something akin to human beneficence? Questioning the inevitability of fate, the Greeks were impelled to define and debate problems of freedom and necessity. Above all, they wondered about the justice, injustice, or sheer indifference of fate to mortals, and thus they were led to formulate the distinctions between a conventional and a natural justice, between things "under our control" (ἐφ' ἡμῖν) and things beyond it, and between a fate that works through a man's will and a fate that works in spite of it, whether for his weal or woe, deserved or undeserved.

The book is on familiar grounds, since its materials are drawn mainly from Homer and Hesiod, from Aeschylus, Sophocles, and Euripides, and from the commonplaces of Greek and Roman philosophy. We read once more of the sad lot of humanity in Homer's tales of avenging Erinyes, of Nemesis, and of the inscrutable decrees of Zeus, whereby all things "lie on the knees of the gods." We are told of Pandora's jar, and how for Hesiod "the earth is

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full of evils and the sea is full," and man's only respite is in back-breaking toil. There are four chapters on tragedy, excellent recapitulations of its traditional themes with learned, but never pedantic, commentary on their interpretation. The teachings of Socrates and the Sophists are briefly reviewed, leading to an appraisal of the teleological argument and its difficulties in the philosophy of Plato and Aristotle and the rival schools of the Hellenistic period. All of this is presented with the pointed brevity that comes only from long and intensive study of the sources. There is nothing tedious in the recounting of these "twice-told tales." The familiar material appears in a new light and its significance is enhanced for the modern reader as the underlying unity of thought is disclosed.

Central to the work is a group of ideas and problems concerning "the relation of power to goodness, and the origin and nature of evil," suggested by the word *Moira*, with its fringe of associations in Greek literature (p. vi). From the vague notion of "a reality behind the gods" in early Greek poetry came the more definite idea of divine jealousy (*phthonos*) in tragedy and the idea of the righteous indignation (*nemesis*) of the gods, as well as that adjustment of rewards and punishments to merits that has since been called "poetic justice." As more critical conceptions of nature (*physis*) and law or custom (*nomos*) arose, the meaning of fate became more determinate in its relations to good and evil. Among the Sophists, the distinctions between natural and conventional values were debated, one group contending that goodness is in reality an effect of naturally superior power, and evil an effect of weakness, while another group held the contrary view that goodness and evil are merely conventional appearances, relative to changing customs. Running through this debate was the problem of man's individual and collective control over his own destiny. Socrates opposed both the "naturalism" and the "humanism" of the Sophists: "not fate, or favoritism, or chance, but one's deserts determine one's future lot" (p. 264). Like his opponents, however, he was seeking the limits between the forces of fate or sheer necessity (*ananke*) and the powers that are amenable to human wisdom. He found an answer in his conception of a cosmic design and "the beneficence of the universe," affording grounds for his faith in fixed principles of conduct. This "naïf teleology," as the author calls it, following Xenophon's account more closely than Plato's, then acquires a more rational and systematic expression in Plato's dialectic with its "Idea of the Good," and in Aristotle's conception of development and of the final cause. A possible foundation for ethics is justified by the theory that Law and Nature (*Nomos* and *Physis*), instead of

being opposed to one another, as the Sophists had assumed, are inseparably connected in the cosmos. "The discovery of Law in Nature and the attempt to base human conduct on the immutable laws of the universe was the great task undertaken not only by Socrates, but by Plato, Aristotle, and the Stoics" (p. 277).

As the conception of natural law emerged in science and philosophy, the conception of a comprehensive providence took shape in religious thought, supplanting the older notions of fate and its arbitrary decrees with the notion of a divine wisdom in "the drama of destiny" (*τὸ τῆς εἱμαρμένης δρᾶμα*). The concluding chapter, "Fate and Providence," traces these later developments from the problems of chance, causality, and free will in the pagan schools of the Roman Empire to the doctrines of St. Augustine and Boethius on providence and "predestination." Finally, the *Paradise Lost* and *Samson Agonistes* of Milton, "not only as an English poet but as a thinker in the Greek tradition," are sympathetically reviewed in their bearing on fate, good, and evil, and on God's foreknowledge of them. The "poetic justice" of Greek tragedy has become the divine justice of the Christian epic.

D. S. M.

The Appeal to Immediate Experience. ROBERT D. MACK. New York: King's Crown Press. 1945. 86 pp. $1.25.

The old issue as to what is given in experience, and how this is related to theorizing, is the topic of this monograph—a doctor's thesis and the Woodbridge Prize Essay for 1943–1944 at Columbia University. The author expresses his main indebtedness to Professor John Herman Randall, Jr.

From the vantage point of Dewey's functionalism, the author critically examines three appeals to immediate experience, that of Bradley, Whitehead, and Dewey, the aim being to show what the real (not the presumed) nature and function of "data" are in the affair of knowing—i.e., in cognitive experience. Though Bradley, Whitehead, and Dewey all actually make this appeal in order "to provide specific material for reflective experience and to serve as a means of verifying inquiry and calling attention to what has been left out of previous inquiries" (p. 7), yet the author finds that the first two philosophers fail to realize this explicitly, while Dewey comes closest to the conscious understanding of the procedure. However, all three *are* consciously engaged in a revolt against the sensory-atomistic conception of data which became conspicuous in Berkeley and Hume under the unfortunate influence of Cartesian dualism.

Bradley's insight and contribution consists, according to our author, in his sense for a kind of dependence of "thought" (re-

lational, conceptual experience) on "feeling" (immediate experience)—this notion, however, being vitiated by a false metaphysic of feeling and thinking in which they are absolutized. The only immediate experience which is self-consistent and in which thought "really" consummates itself is, according to Bradley, an absolute (eternal, changeless) state that once and for all absorbs and transfigures mediation or the relational consciousness. Actually, or in effect, Bradley is assigning the given the rôle of expanding and enriching experience, by making intellect dissatisfied with its own abstractions as such. But he *thinks* that the challenge of immediacy involves, if met by thought, a *final* immolation for the latter on the altar of the former.

Similarly, Whitehead is shown by our author as struggling toward an adequate (functional) conception of the immediate, away from the notion (in *The Concept of Nature*) of data as a class of fixed elements associated with sense-perception. But the spectator theory of knowledge as in the last analysis a kind of looking with *some* sort of eye, continues to haunt Whitehead, even in *Process and Reality,* despite its talk of creative advance. The author fails to mention—or to include in his bibliography—*The Function of Reason,* in which Whitehead escapes furthest from under the influence of the spectator theory toward straight functionalism, a book that Whitehead himself considers among his best.

Dewey is the functionalist *par excellence,* but the author believes that even he might have been clearer about his two senses (at least two) of "immediate experience, one having to do with the pre-reflective data as "whole situations" and the other the post-reflective, well-defined objects of observation that crystallize out of the whole situation in the line of a needy organism's response, and signifying problem-solving action. Thus, for Dewey, the distinction between immediate and mediate experience is functional and relative, there being no fixed class of elements of which it can be said that these and only these are to be "immediately experienced." But Dewey does also assert that one of philosophy's critical functions is to restore naïveté or freshness of experience, by detection and isolation of the acculturation that the given inevitably undergoes—those cultural values or meanings that, in consummatory experiences, become *primary* qualities of things. This presupposes, one would think, a class of elements that are *given* in a more ultimate sense than others (involving the increments of meaning), and should therefore be the final court of appeal for theories. The author makes no clarifying comment on this issue, though his book as a whole is an excellent corrective for the artificial metaphysics of sense-data that underlies epistemological dualism.

V. C. A.